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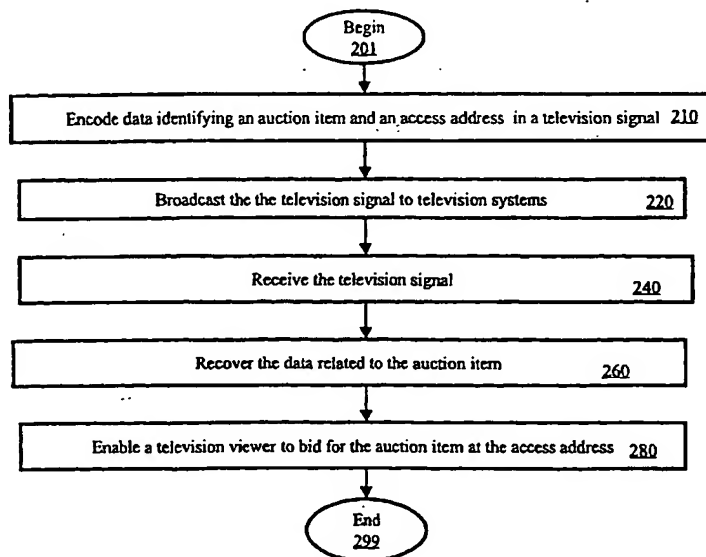
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(54) Title: ENABLING VIEWERS OF TELEVISION SYSTEMS TO PARTICIPATE IN AUCTIONS



(57) Abstract: Enabling the viewers of television systems to participate in auctions. Data identifying an item (e.g., description of the auction item and a unique code) offered for sale in an auction and an access address (e.g., universal resource locator of a web site) may be encoded (210) in a television signal and broadcast (220) to various television systems. The data may be recovered (240, 260) by a transaction enabler which enables a viewer to bid for the auction item (280). Other information such as highest present bid price may also be encoded in the television signal and displayed for the viewer.

WO 01/03044 A1

ENABLING VIEWERS OF TELEVISION SYSTEMS TO PARTICIPATE IN AUCTIONS

Related Application

The present invention is related to co-pending U.S. Patent Application Entitled,
5 “Encoding Hot Spots in Television Signals”, Serial Number: 09/276,266, Filing Date: March
25, 1999, which is incorporated in its entirety into the present application.

Background of the Invention

Field of the Invention

The present invention relates to television systems, and more specifically to a method
10 and apparatus for using television signals to enable viewers of television systems to participate
in auctions.

Related Art

An auction generally refers to a process in which multiple parties are provided the
opportunity to bid for an offered item. The offered item can be a process or a service. In a
15 typical bidding process, an a seller offers an item, and a party (“bidder”) bids for the offered
item usually by specifying a price the party is willing to pay. The seller may specify the
minimum acceptable price and a time at which the auction closes.

Typically, an offered item is sold to the highest bidder (i.e., party specifying highest
price) in return for the specified highest price. However, criteria other than price (e.g., credit
20 worthiness) of the bidder may also be taken into consideration in determining the bidder to
whom to sell an offered item.

Central servers are known in the relevant arts which coordinate the bidding process.
For example, web site at URL of <http://www.ebay.com> enable sellers to offer products

according to various categories (e.g., sports memorabilia, computers), and a bidder may bid on the offered products by using a browser on the world-wide web as is well known in the relevant arts.

Organizations such as those providing the web sites to enable auctions are hereafter referred to as "service providers". Service providers often advertize on various other web sites so that users accessing ("surfing") these web sites may know about the general service. Typically, a user (viewer of the advertisement) can click on an advertisement to access the web sites providing the auction service.

However, these advertisements are typically targeted to the users surfing the world wide web, and may not target at least some of the viewers ("television viewers") of television systems. The television viewers constitutes a big segment of the auction market, and it is therefore desirable to enable television viewers to participate in the auctions.

Such participation may be particularly important as the viewers of a specific television program may be expected to be of certain 'profile', and certain items may be suitable for people of that profile. For example, a person watching Mr. Mark McGuire (a baseball player in United States baseball) hit a record breaking home run may be interested in purchasing a baseball bat signed personally by Mr. Mark McGuire. That is, the auction items can be targeted to the viewers of television programs.

At least for the above-stated reasons, what is needed is a method and apparatus for enabling viewers of television systems to participate in auctions.

Summary of the Invention

The present invention enables viewers ("television viewers") of television systems to participate in auctions. The auctions may be occurring on web sites on the Internet also. In

an embodiment of the invention, data describing an item ("auction item") available for bidding and an access address of a system at which a television viewer may bid are encoded in a television signal.

The user may submit a bid at a system (e.g., a web site) identified by the access
5 address. In case the system is a web server, users ('surfers') of world-wide-web may also submit bids by accessing the web server on the world-wide web. Accordingly, the present invention may be used to draw television viewers to web-sites (e.g., www.ebay.com) dedicated to auctions also.

In an embodiment, the data is encoded in the non-display portion (e.g., vertical
10 blanking interval) of the television signal. However, other portions of a television signal may also be used for encoding the data. Other information of interest to the viewer such as a minimum bid amount specified by a seller and the present maximum may also be encoded in the television signal, and displayed for viewer convenience.

A transaction enabler may recover the data encoded in the television signals, and
15 display the information to the viewer. The viewer may conveniently bid on the auction items, for example, by specifying the bid price (offer) and clicking on a pre-specified portion of a displayed image.

The bid may be automatically sent to a server identified by the access address. In the alternative, the viewer may be first navigated to a web server specified by the access address,
20 and the user may specify the bid price then. A unique code identifying the auction item may also be encoded in the television signal, and the code may be used to identify that the bid price relates to the auction item. In the alternative, the URL itself may contain such identification codes.

The transaction server may also provide updated information on a present highest bid. For example, an end time associated with the auction may be provided to the television viewer, and the viewer may check the present highest bid at a later time before the end time, and then decide whether to submit a bid. In addition, the transaction server may interact with the system providing the auction service, and provide periodic updates at viewer's option. As a result, a viewer may make an informed decision on whether to bid.

Therefore, the present invention enables a television viewer to participate in an auction by encoding in a television signal the data identifying an auction item and an access address.

The present invention enables television viewers to be drawn to web sites providing auction service by specifying the URL of the web site as the access address.

The present invention is useful for broadcasters as the broadcasters may facilitate the joining of additional bidders to a bidding process, and be compensated for such additions.

The present invention is useful for service providers providing auction service as the television viewers are drawn to bid for on-going auctions.

The present invention is useful for service providers providing auction service also because higher commissions may be charged for the auction items sold in accordance with the present invention.

The present invention is useful for television viewers as a television viewer may have non-intrusive access to information on auctions, and purchase the auction items by a convenient user interface.

The present invention is useful for sellers participating in auctions as the sellers may attain greater return for the auction items due to additional pool of bidders participating in accordance with the present invention.

Further features and advantages of the invention, as well as the structure and operation of various embodiments of the invention, are described in detail below with reference to the accompanying drawings. In the drawings, like reference numbers generally indicate identical, functionally similar, and/or structurally similar elements. The drawing in which an element first appears is indicated by the leftmost digit(s) in the corresponding reference number.

Brief Description of the Drawings

The present invention will be described with reference to the accompanying drawings, wherein:

Figure 1 is a block diagram illustrating an example environment in which the present invention can be implemented;

Figure 2 is a flow-chart illustrating a method in accordance with the present invention;

Figure 3 is a block diagram illustrating an example broadcast system which encodes data related to an auction item in a television signal;

Figure 4 is a block diagram illustrating the details of a transaction enabler in an embodiment of the present invention;

Figure 5 depicts a display screen using which a user may participate in auctions in accordance with the present invention.

Detailed Description of the Preferred Embodiments

1. Overview and Discussion of the Invention

The present invention allows viewers ("television viewers") of television systems to participate in auctions. Typically, the data relating to an item ("auction item") offered for sale in an on-going auction is encoded in a television signal. The encoded information may be displayed while the television viewers watch the images encoded in the television signal. The

viewers may be provided a convenient interface to bid on the auction item.

Auction items consistent with expected viewer profiles may be sold using the present invention. A seller may be able to sell at higher prices as many viewers are likely to bid. For example, a diamond ring may be auctioned towards the end of a romantic movie. The invention is described below with respect to several examples for illustration.

2. Example Environment

Figure 1 is a block diagram illustrating an example environment in which the present invention can be implemented. The environment may include bidding systems 110-A and 110-B, Internet 120, web site 130, broadcast system 150, and television 170. A viewer of television 170 may participate in auctions as described below in further detail.

Web site 130 may provide an auction service. As an illustration, web site 130 may implement the interface of www.ebay.com, well known in the relevant arts. Bidder systems 110-A and 110-B may access Internet 120 to bid on the items offered for sale on web site 130. Bidding systems 110-A and 110-B, Internet 120, and web site 130 may be implemented in a well-known way. Even though the auction service is shown as being provided from web site 130, it should be understood that different other servers using different access technologies (e.g., dial-up) may be used in providing the service.

Broadcast system 150 includes information related to an auction item in a television signal and transmits the television signal on broadcast medium 146 (airwaves, cable, etc.). The data may specify the item offered for sale, the present highest bid, and an access address for enabling the viewer to bid. For example, the access may contain a URL of web site 130. An example embodiment of broadcast system 150 is described below.

The auction may be in progress (on-going) on web site 130, and accordingly broadcast system 150 may access web site 130 to access any data (e.g., present highest bid) for inclusion

in the television signal. Link 134 may be provided on Internet 120 even though a dedicated line is shown in Figure 1.

Viewer bidding system 150 receives the television signal, and enables a viewer to participate in auctions. Viewer bidding system 150 may display the images encoded in the received television signal. In addition, viewer bidding system 150 may recover the data
5 related to the auction item, and display the corresponding information. By appropriate action, the user may indicate a higher bid and transmit the higher bid on virtual link 163 on Internet 120.

In an embodiment, viewer bidding system 150 may include television 170, transaction
10 enabler 160, and remote control 180. Transaction enabler 160 may overlay any images necessary for providing an user interface on top of the images encoded in the television signal ("television signal images"). For example, information identifying the auction item (e.g. Mark McGuire's bat) and the highest bid price may be overlaid on television signal images.

Transaction enabler 160 may encode the overlaid image in a form consistent with
15 conventional television signals for display on television 170. In other words, transaction enabler 160 operates as a 'set-top' box. However, transaction enabler 160 may be integrated into television 170, for example, using embedded chip-sets provided by TeleCruz Technology, Inc. In either case, remote control 180 enables the user to specify the bid price and to transmit the new bid. An example embodiment of transaction enabler 160 is described below in further
20 detail. However, first a method in accordance with the present invention is described first below.

3. Method

Figure 2 is a flow-chart illustrating a method in accordance with the present invention. The method begins in step 201, in which control passes to step 210. In step 210, data identifying an auction item and an access address may be encoded in a television signal. The data identifying an auction item may include both a descriptive component (e.g., "baseball bat signed by Mark McGuire") and a unique code specifying the auction item (or group in case multiple items of the same type are available).

The data may be encoded in one of different formats depending on different criteria, but consistent with an interface at viewer bidding system 150. For example, a unique code identifying an auction item may be encoded as a parameter of a URL (access address) since the web browser's based technology lends well to such encoding and later submission of a bid. The television signal may also be encoded with image frames for display on television signals. Both (images and data related to auction items) encoding may be performed in a known way.

In step 220, the television signal may be broadcasted to television systems covering a large geographic area. In step 240, the television signal may be received at a viewer end (e.g., by transaction enabler 160 of Figure 1). In step 260, the data related to the auction item (encoded in step 210) may be recovered. The recovery generally needs to be consistent with the encoding scheme used by broadcast system. In general, any compatible encoding scheme may be used.

In step 280, the user is provided a convenient user interface to bid on the auction item. Typically, the description of the auction item is displayed, and the user may be provided the option to bid, in which case the bid is submitted to a system identified by the access address. While submitting the bid, the unique code identifying the auction item may be used to specify to the system that the bid relates to that particular item. The access address is used to connect

the user to a central machine (e.g., web site or any server) or person. The user may then submit the bid. The highest bidder is generally entitled to the offered auction item for the submitted bid.

The method and environment described above may be applied in several ways as will be apparent to one skilled in the relevant arts based on the disclosure herein. All such implementations are contemplated to be within the scope and spirit of the present invention. However, it may be desirable to have bidders (television viewers) participation at different points of a broadcast. The manner in which the point can be controlled is described below with respect to broadcast system 140.

10 4. Broadcast System

Figure 3 is a block diagram illustrating an example embodiment of broadcast system 140. Even though the description of broadcast system is provided substantially with respect to broadcasters producing a television signal, the present invention can be practiced by intermediate broadcasters also. Such advertisements are generally more targeted to the specific geographic profile. Broadcast system 140 may contain production block 310, authoring block 320, broadcast block 330, timing determination block 340, auction data interface 360, and storage 350. Each block is described in further detail below.

Timing determination block 340 may determine the specific time at which to encode data related to an auction item. For example, it may be desirable to broadcast data related to a baseball bat (auction item) when a home run is hit. Timing determination block 340 may be implemented to monitor the scores of the baseball game and generate an indication to auction data interface 360. Several other criteria can be used in determining when to send data related to an auction item.

Timing determination block 340 may also determine when to send updates

corresponding to various auctions. When timing determination block 340 determines to cause update corresponding to an auction to be sent, auction data interface 360 may interact with web site 130 to retrieve a present highest bid from web site 130. The present highest bid may be provided to authoring block 320 for encoding in a broadcast television signal.

5 Auction data interface 360 receives data on line 134 if a web based auction is on-going for the auction item of interest on web site 130. The data may indicate the present highest bid, bid history, the seller, any comments about the seller. As noted above, auction data interface 360 may provide the data to be encoded in the television signals. The data may contain, in addition to the data retrieved from web site 130, data identifying the auction item (descriptive
10 component and unique code).

Some of the data may be pre-stored in storage 350 also. For example, it may be desirable to display graphic icons on television systems to represent different auction items. Bit maps representing the graphics icons may be stored in storage 350. In general, auction data interface 360 may gather any data which may be of interest to bidders, and pass the data
15 to authoring block 320.

Production block 310 may contain different components such as cameras which are used to film a show/program. The display signal is preferably in a form suitable for eventual transmission as a television signal. In general, production block 310, may encode images in a display data portion of a television signal. The images may be displayed later on a television
20 system for viewing a broadcast program. Production block 310 may be implemented in a known way.

Authoring block 320 encodes data received from auction data interface 360 into television signals. The data may be encoded according to any convention, and transaction enabler 160 may need to be accordingly designed. Several such conventions can be designed

in known way. Authoring block may either store the resulting signal in storage 350 or forward to broadcasting block 330.

In one embodiment, authoring block 320 encodes the data in non-display portion (e.g., vertical blanking interval) of the display signal. Such encoding may be performed in a known way. In an alternative embodiment, the data may be encoded in other portions (e.g., least significant bits of pixel data elements representing an image) as well. This alternative embodiment is described in further detail in co-pending U.S. Patent Application Entitled, "Encoding Hot Spots in Television Signals", Serial Number: 09/276,266, Filing Date: March 25, 1999, which is incorporated in its entirety into the present application.

Even though the encoding is described with reference to analog television signals, it should be understood that the present invention may be practiced in conjunction with digital television signals (e.g., those suitable for HDTV) also. Some of the techniques described in this application may be employed for such encoding in the digital television signals. Many other techniques will be apparent to one skilled in the relevant arts based on the disclosure herein. Such other techniques are also contemplated to be within the scope and spirit of the present invention.

Broadcast block 330 may broadcast television signals (containing the hot spot data in the display data portion) in a known way. It should be noted that the television signal can be in progressive scan format or interlaced format. Production block 310 and authoring block 320 need to be implemented taking into consideration the transmission standard (progressive vs. interlaced, and digital vs. analog) of the television signals. Thus, broadcast block 330 generates television signals containing data which may be used to enable television viewers to bid on the auction items.

Transaction enabler 160 receives the television signals and enables a viewer to bid on

the auction items. Example embodiments of transaction enabler 160 are described below in further detail. Before describing example embodiments of transaction enabler 160 in detail, it is helpful to understand some typical problems with the user interface.

5. Problems and Solutions

5 In one embodiment, a highest present bid may be encoded in the television signal, and the user may submit a higher bid than the highest present bid. One problem associated in the environments of Figures 1 and 2 is that many bidders may bid for the auction item based on the same highest bid. As the bids are generally marginally more than the present highest bid, the approach may not maximize the return for the seller.

10 Accordingly, an improvement may be implemented in which an "auction close time" (time at which the auction for the auction item ends) may be associated with the auction item. The auction close time may also be encoded and transmitted in the television signals. Thus, viewers may choose a later convenient time for bidding on the auction item. However, in such a situation, viewer bidding system 150 may need to store the required data.

15 Yet another problem is, a viewer may wish to know an updated highest bidding price before actually submitting a bid. Thus, the viewer may be provided a convenient user interface to request a 'present highest bid' associated with an auction item of interest. The updated price may also be received on virtual link 163. In this case also, viewer bidding system 150 may need to store the required data.

20 In yet another scenario, a viewer may wish continuous updates of the highest bidding price. Accordingly, a viewer may be provided an option of initiating a small window in which the updates to the highest bids are provided continuously (e.g., when highest bid changes or every 3 seconds). An embodiment of transaction enabler 160, which provides for at least these features is described below.

6. Transaction Enabler

Figure 4 is a block diagram illustrating the internals of an example embodiment of transaction enabler 160 containing image decoder 410, memory 430, recovery block 420, processor 450, digital to analog converter (DAC) 485, multiplexor 480, infra-red (IR) receiver 460, telephone interface 470 and broadband interface 475. Each component is described
5 below in further detail.

Image decoder 410 generates pixel data elements representing image frames encoded in a television signal received on broadcast channel 146. In response to the operation of remote control unit 180, image decoder 410 may store the pixel data elements representing an
10 image frame in memory 430. Such storage enables overlays. Image decoder 410 may be implemented in a known way. Memory 430 may represent several memory modules such as fast random access memories and relatively slower non-volatile memories. The non-volatile memories may store data and program instructions which enable the operation of the present invention.

15 Recovery block 420 recovers the data related to auction items encoded in the received television signal. In general, recovery block 420 needs to be implemented consistent with any conventions or protocols used at broadcaster end 380 for encoding the hot spot data. If the data is encoded in non-display portions (e.g., VBI), the data may be recovered in a known way. If the data is encoded in display data portion (i.e., in images), recovery block 420 may
20 examine the pixel data elements stored in memory 430 to recover the data. Further details of recovery are noted in co-pending U.S. Patent Application Entitled, "Encoding Hot Spots in Television Signals", Serial Number: 09/276,266, Filing Date: March 25, 1999, which is incorporated in its entirety into the present application.

Infra-red (IR) receiver 460 receives remote control signals from remote control unit 180, and provides digital data representing the remote control signals to processor 450. The control signals may indicate whether the user wishes to see auction item related data, to enter the bid, to receive an updated present highest bid, etc. Several features of the user interface
5 may be activated by a viewer using IR receiver 460. IR receiver 460 may be implemented in a known way. It may be noted that other receivers which receive control signals from viewers and provide corresponding digital data to processor 450 may be implemented.

Telephone interface 470 enables a telephone call to be initiated. Such telephone calls may be generally initiated either to connect to the Internet via an ISP or to contact a phone
10 with a live-operator. When a telephone call is initiated with a live operation, telephone interface 470 may provide the necessary micro-phone (for a viewer to speak) and receiver for reproducing audible voice. Alternatively, a user may utilize a conventional telephone set that is attached to line 335.

Broadband interface 475 may provide a high speed connection (e.g., using a local area
15 network, digital subscriber loop technology or cable interface) to connect with a web server (corresponding to an URL) or even initiate a voice call (e.g., using voice over Internet Protocol). Telephone interface and broadband interface may be logically viewed as being part of line 163 of Figure 1. In general, broadband interface 475 and telephone interface 470 provide the communication to a system (specified by access address) providing auction
20 service.

Processor 450 receives data related to auction items from recovery block 420, and enables a user to send a bid to a system identified by an access address. The transmission of the bid may be either by broadband interface 475 or telephone interface 470 as specified by the type of access address. Processor 450 may also implement the user interface features noted

in the section above.

For a suitable user-interface, processor 450 may control the images displayed on television system 110. For example, processor 450 may overlay information in the auction items related data on the television signal image. Specifically, the portion to be overlaid on television images may be provided by processor 450, and control line 481 may be controlled to accomplish the overlay function. However, when a user does not wish to bid or when data related to auction items is absent in television signals, processor 450 may control select line 481 to cause the television signal received on line 146 to be passed directly on line 167. In addition, processor 450 may cause auction related data to be displayed in a transparent mode. Typically, techniques such a half-tone control are used for achieving such transparency of display.

If the access address is a URL, transaction enabler 160 may need to operate as a web-browser. Processor 450 may enable such an operation by executing the program instructions provided by memory 430. The web-browser enables transaction enabler 160 to receive different web-pages in a known way. Processor 450 may convert the web pages into image frames, and encode the image frames into a television signal having a format compatible with conventional television signals such that the images can be displayed on television system 110. Well known methods may be employed for such conversion and encoding.

Therefore, transaction enabler 160 may operate in conjunction with broadcast system 140 to enable a television viewer to participate in auctions. As a result, viewers of television systems may be drawn to participate in auctions which are generally accessed mostly by users surfing the world-wide-web. It should be understood that web site 130 and broadcast system 140 may be integrated as one unit depending on the available technologies, and in such a case,

transaction enabler 160 may communicate with such a unit directly. The present invention is described in further detail below with reference to an example user interface considering some of the description of above.

7. User Interface

5 Figure 5 is a diagram illustrating the manner in which transaction enabler 160 may enable a viewer of television programs to participate in auctions. It should be understood that transaction enabler may use other display devices from which a user can participate in auctions. In addition, other types of systems (such as computers) which display images in television signals may also be used to participate in auctions in accordance with the present
10 invention.

Continuing the description with reference to Figure 5, there is shown television display 500 (for example, on television 170). Auction related data may be received in accordance with the present invention, and the relevant data may be displayed in a small window 540. Window 540 is preferably overlaid on television program images as a transparent window
15 using techniques such as half-toning well known in the relevant arts. By using a transparent display, a viewer may be able to watch the programs encoded in the television signal while participating in the auctions.

Window 540 may be used to display the description of the auction item ("McGuire's 70th Home Run Bat" in the example there), the present highest bid, bidder of the highest bid,
20 and the time at which the auction for this item is expected to close may be displayed. The present highest bid may be periodically updated using the data received on the broadcast television signal. On the other hand, a viewer may select (click on) 'Update' text to cause transaction enabler 160 to initiate a dialogue with web server 130, and retrieve updated information for a presently watched auction item. Thus, in Figure 5, such a selection may

cause transaction enabler 160 to display \$4300 (representing an increase in the present highest bid).

The user may select 'Bid History' to view the previous bidders and history. The relevant data may either be displayed based on data stored locally or the data may be retrieved
5 from web site 130 in response to a user request. As is well known in the relevant arts, auction sites such as www.ebay.com provide such bid histories.

The user may specify her/his bid price in the box provided next to text 'Your Bid'. The user may then select the 'Submit' text to cause transaction enabler 160 to submit the bid. As noted above, the submission may be according to any mechanism. The bid can potentially
10 be over a broadband interface to access a web site or to a server accepting over a telephone connection. Once the bid is submitted to a server at the access address, the auction item may be sold to a bidder in a known way. If the user of system 150 has the highest bid, the user may pay the bid amount and receive the auction item.

Thus, an interface such as the one above, a user (or television viewers) may bid for
15 auction items in accordance with the present invention. The bid may be submitted according to any pre-specified protocol between transaction enabler 160 and an auction server (e.g., web site 130). The implementation of auction on web site 130 based on such received bid prices will be apparent to one skilled in the relevant arts.

8. Conclusion

20 While various embodiments of the present invention have been described above, it should be understood that they have been presented by way of example only, and not limitation. Thus, the breadth and scope of the present invention should not be limited by any of the above-described exemplary embodiments, but should be defined only in accordance with the following claims and their equivalents.

What Is Claimed Is:

- 1 1. A method of enabling a viewer of a television system to participate in auctions, said
2 method comprising:
 - 3 (a) encoding in a television signal a data describing an auction item and an access
4 address of a server at which auction service for said auction item is provided; and
5 (b) transmitting said television signal,
6 wherein said data can be used to enable said viewer to bid for said auction item at said
7 server.
- 1 2. The method of claim 1, wherein said method further comprises:
 - 2 (c) receiving said television signal encoded with said data in a transaction enabler;
 - 3 (d) recovering said data encoded in said television signal;
 - 4 (e) displaying information describing said auction item on said television system;
 - 5 (f) enabling said viewer to bid at said server specified by said access address.
- 1 3. The method of claim 2, further comprising:
 - 2 (g) enabling said viewer to specify a bid price for said auction item.
- 1 4. The method of claim 3, wherein said enabling said viewer to specify said bid price
2 comprises:
 - 3 (h) enabling said viewer to indicate said bid price; and
4 (i) transmitting said bid price to said server at said access address.
- 1 5. The method of claim 4, wherein said access address comprises a telephone number

2 of said server, and said method further comprises:

3 (j) encoding a unique code identifying said auction item;

4 (k) recovering said unique code in said transaction enabler; and

5 (l) transmitting said unique code along with said bid price to said server,

6 whereby said server can easily associate said bid price with said auction item using said

7 unique code.

1 6. The method of claim 4, wherein said access address comprises a universal resource
2 locator (URL) of a web site, wherein said web site comprises said server, and wherein steps
3 (h) and (i) comprise the further step of enabling said viewer to indicate said price on a web
4 page provided by said web site.

1 7. The method of claim 1, further comprising:

2 (m) encoding a present highest bid in said television signal, wherein said present
3 highest bid may be displayed to said viewer before said viewer decides to submit a bid.

1 8. The method of claim 7, wherein said server comprises a web site, and said method
2 comprising the further step of retrieving said present highest bid from said web site.

1 9. The method of claim 1, wherein step (a) comprises the step of encoding said data
2 in non-display portion of said television signal.

1 10. The method of claim 1, wherein step (a) comprises the further step of encoding
2 said data in a non-display portion of said television signal.

1 11. The method of claim 10, wherein said non-display portion comprises vertical
2 blanking interval (VBI).

1 12. The method of claim 1, further comprising:
2 transmitting an updated highest bid price in said television signal, wherein said updated
3 highest bid price corresponds to a present highest bid for said auction item.

1 13. The method of claim 12, further comprising:
2 retrieving said updated bid price from said server,
3 wherein said step of transmitting said updated highest bid price is performed after said
4 step of retrieving said updated bid price from said server.

1 14. The method of claim 13, further comprising:
2 enabling said viewer to request a bid history; and
3 displaying all of said updated bid prices to said viewer.

1 15. The method of claim 14, wherein said display corresponding to said bid history
2 further comprises a description of the bidder corresponding to each of said present highest bid.

1 16. The method of claim 1, wherein said data further comprises a time at which
2 auction for said auction item closes.

1 17. A method of enabling a viewer of a television system to participate in auctions,

2 said method comprising:

- 3 (a) receiving in a transaction enabler a television signal encoded with a data, said data
4 including a description of an auction item and an access address of a server at which auction
5 service for said auction item is provided;
- 6 (b) recovering said data encoded in said television signal;
- 7 (c) displaying said description of said auction item on said television system;
- 8 (d) enabling said viewer to bid at said server specified by said access address.

1 18. The method of claim 17, further comprising:

- 2 (e) enabling said viewer to indicate said bid price; and
- 3 (f) transmitting said bid price to said server at said access address.

1 19. The method of claim 4, wherein said access address comprises a telephone number
2 of said server, and said method further comprises:

- 3 (g) encoding a unique code identifying said auction item;
- 4 (h) recovering said unique code in said transaction enabler; and
- 5 (i) transmitting said unique code along with said bid price to said server,
- 6 whereby said server can easily associate said bid price with said auction item using said
7 said unique code.

1 20. An environment enabling a viewer of a television system to participate in auctions,
2 said environment comprising:

3 encoding means for encoding in a television signal a data describing an auction item

4 and an access address of a server at which auction service for said auction item is provided;
5 and
6 transmission means for transmitting said television signal,
7 wherein said data can be used to enable said viewer to bid for said auction item at said
8 server.

1 21. An environment enabling a viewer of a television system to participate in auctions,
2 said environment comprising:
3 receiving means for receiving a television signal encoded with a data, said data
4 including a description of an auction item and an access address of a server at which auction
5 service for said auction item is provided;
6 recovery means for recovering said data encoded in said television signal;
7 displaying means for displaying said description of said auction item on said television
8 system;
9 enabling means for enabling said viewer to bid at said server specified by said access
10 address.

1 22. An environment enabling a viewer of a television system to participate in auctions,
2 said environment comprising:
3 a broadcast system to encode in a television signal a data describing an auction item
4 and an access address of a server at which auction service for said auction item is provided,
5 said broadcast system being designed also to transmit said television signal,
6 wherein said data can be used to enable said viewer to bid for said auction item at said
7 server.

1 23. The environment of claim 22, wherein said broadcast system comprises:
2 a production block to generate images to encode in a display data portion of said
3 television signal;
4 an authoring block to encode said data in said television signal; and
5 a broadcast block to transmit said television signal containing said images and said
6 data.

1 24. The environment of claim 23, further comprising an auction data interface to
2 receive a present highest bid from a server, said auction data interface to provide said present
3 highest bid to said authoring block, wherein said authoring block encodes said present highest
4 bid in said television signal.

1 25. The environment of claim 24, further comprising a timing determination block to
2 determine the time at which said authoring block encodes said data including said present
3 highest bid in said television signal.

1 26. The environment of claim 22, further comprising:
2 a viewer bidding system to receive said television signal, and enabling said viewer to
3 submit a bid and participate in said auction.

1 27. The environment of claim 26, wherein said viewer bidding system comprises:
2 a television system;
3 a remote control which enables said viewer to submit said bid; and

4 a transaction enabler coupled to said television system and to receive said commands
5 from said remote control, said transaction enabler to recover said data encoded in said
6 television signal and display information contained in said data on said television,
7 wherein said viewer can submit said bid using said remote control.

1 28. The environment of claim 27, wherein said transaction enabler is integrated within
2 said television system.

1 29. The environment of claim 27, wherein said transaction enabler is provided external
2 to said television system, and wherein said transaction enabler overlays a window with
3 information contained in said data on images encoded in the display data of said television
4 signal.

1 30. The environment of claim 27, wherein said window is displayed in a transparent
2 mode on said images.

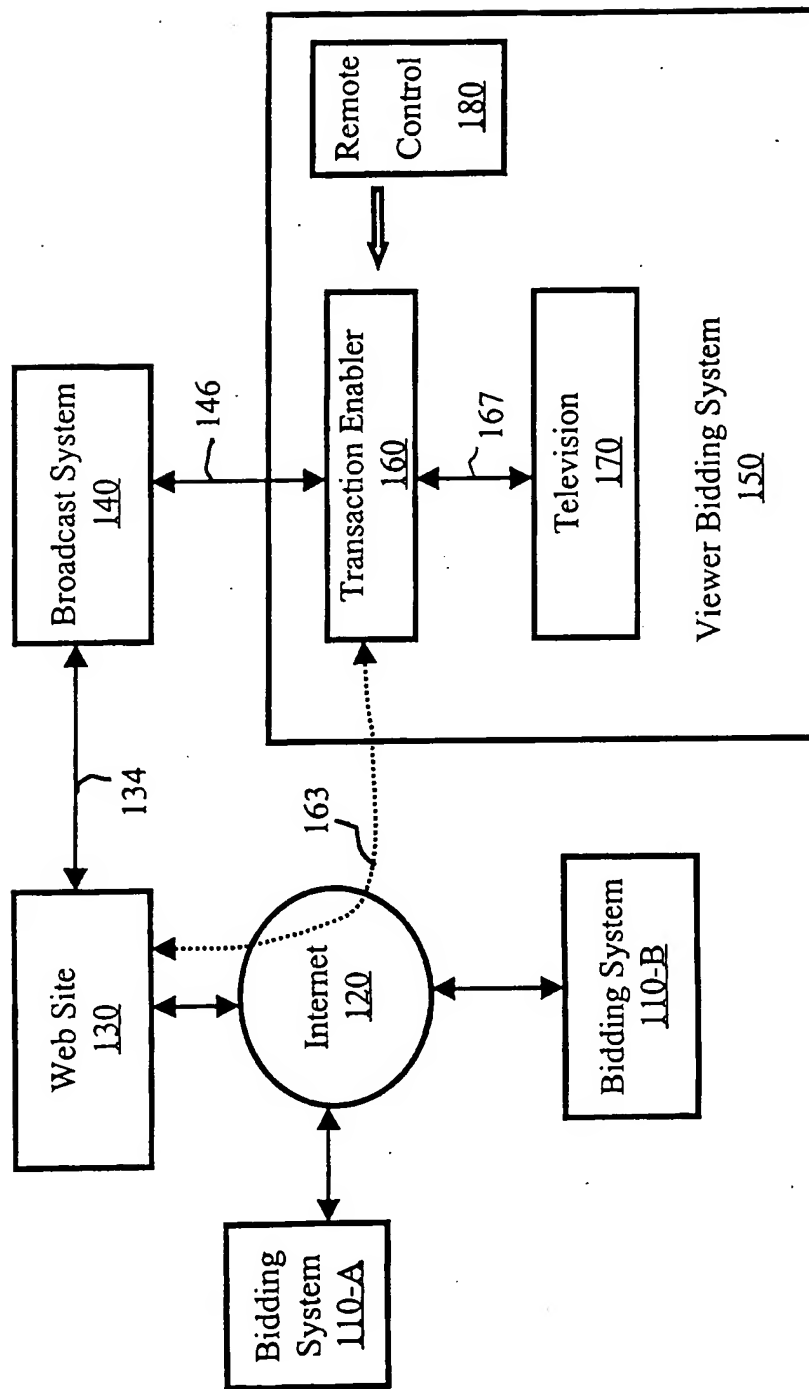


Figure 1

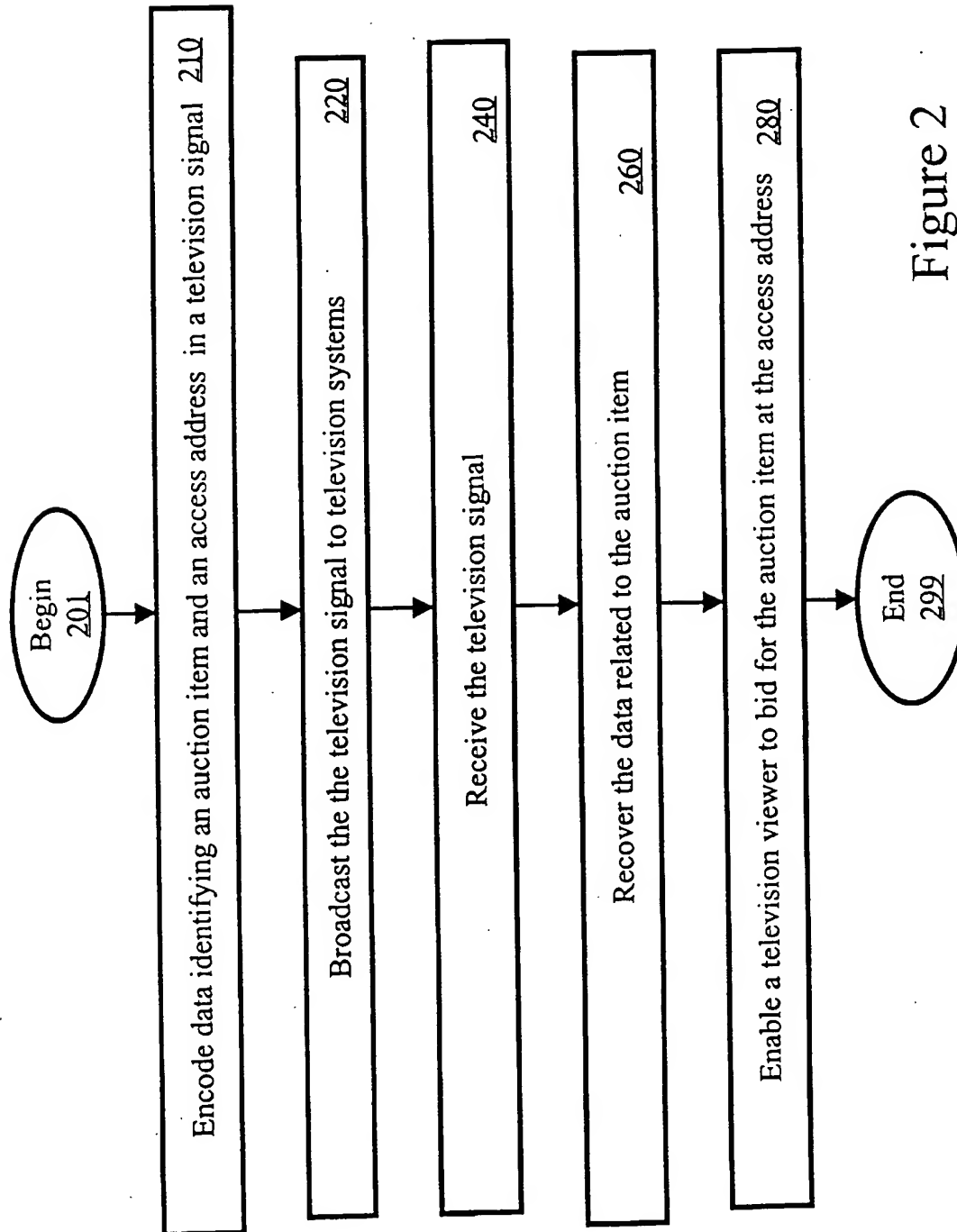


Figure 2

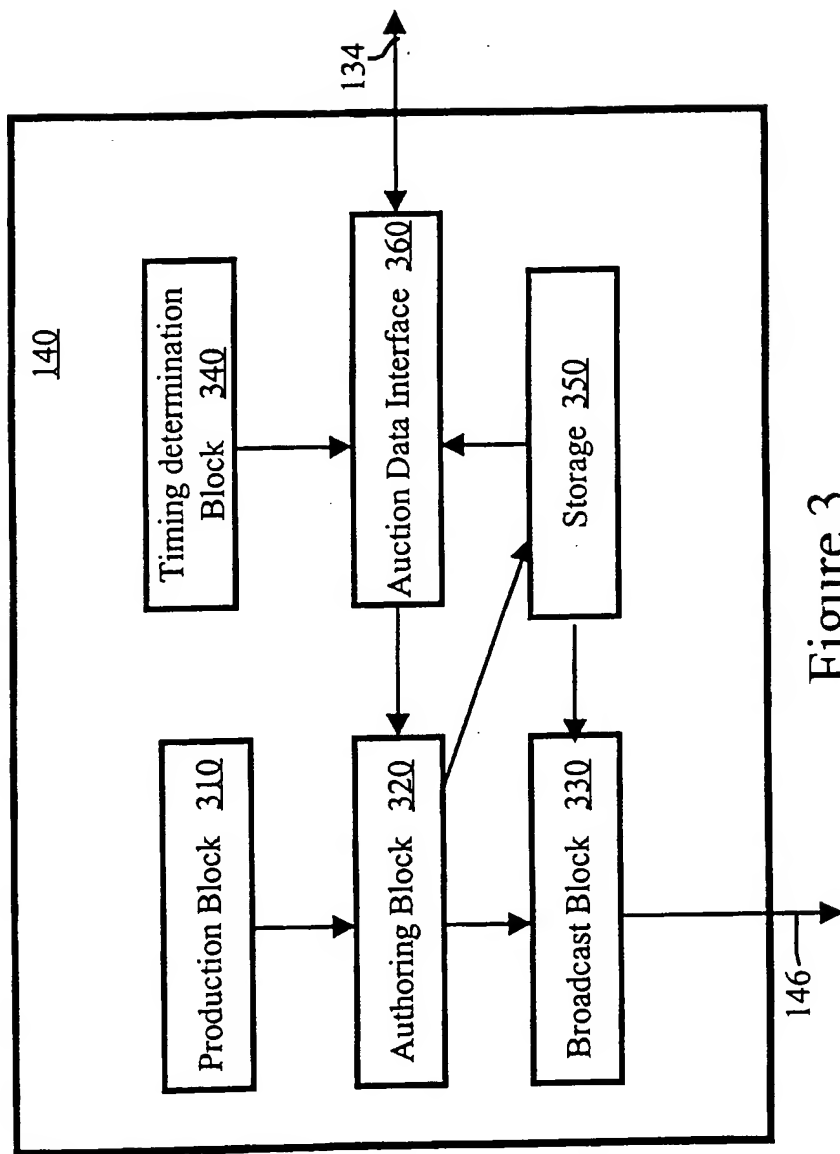


Figure 3

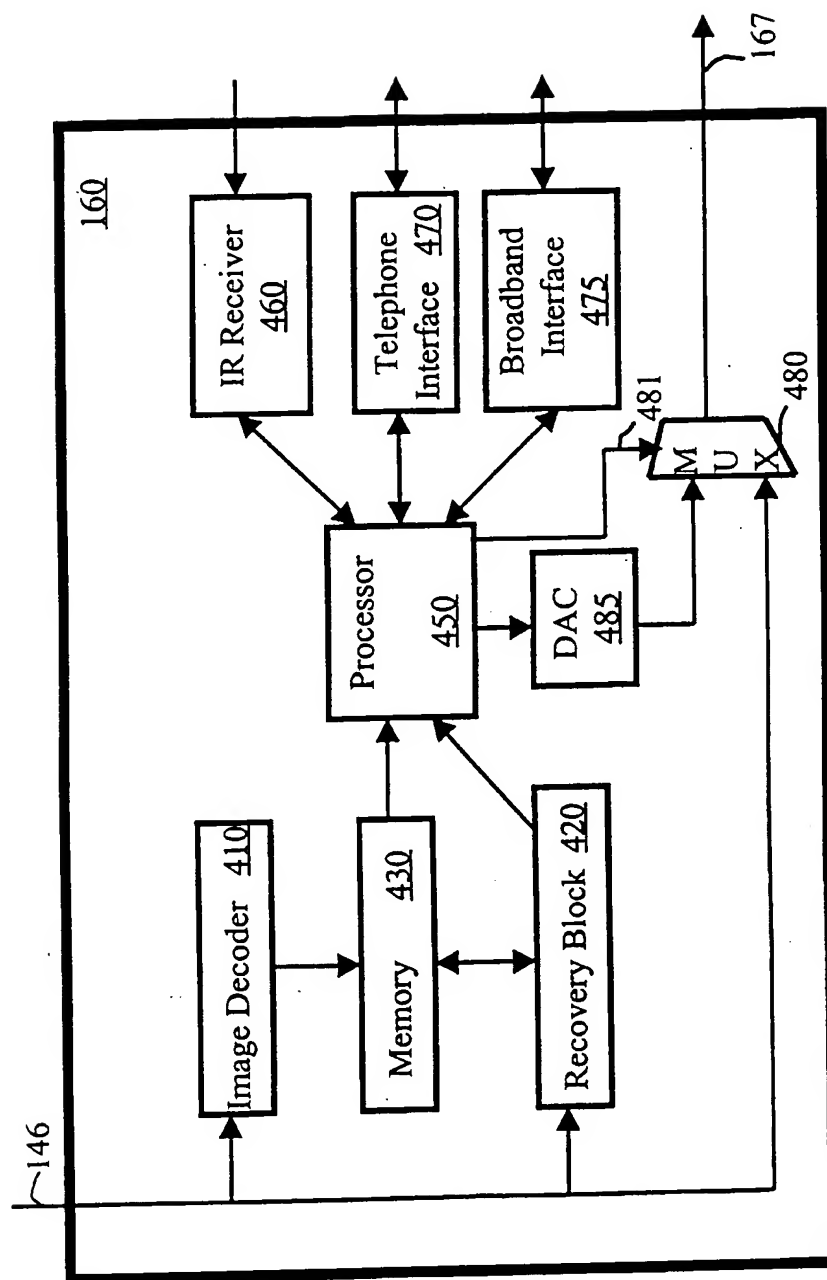


Figure 4

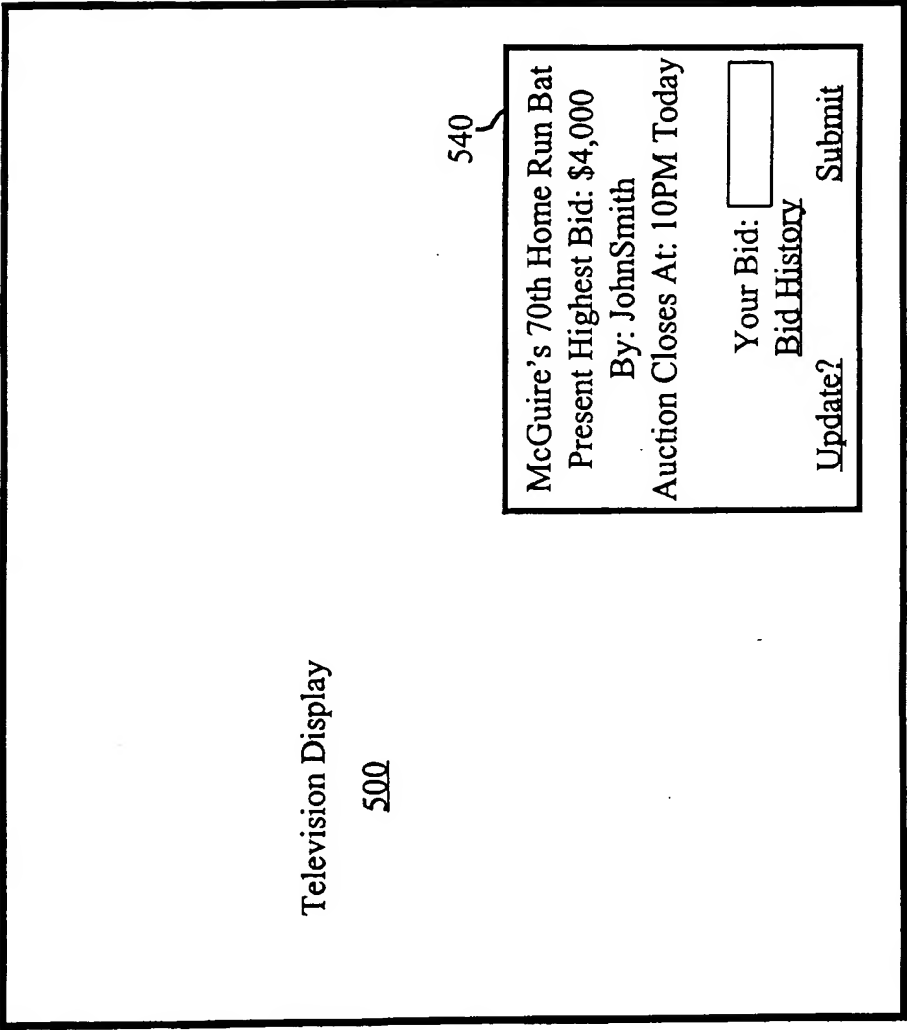


Figure 5

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US00/18510

A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : G06F 17/60

US CL : 705/26, 27, 37

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 705/26, 27, 37

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
Please See Extra Sheet.

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
EAST, CORPORATE RESOURCE NET

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	Auction Goes Upscale. Capital District Business Review. April 17, 1995. Vol. 22. Issue 1. page 43.	1-30
Y,E	Strategic Partnership Between ExtraLot.com and The Auction Channel. Business Wire. August 11, 2000.	1-30
Y	Auctioneer Onsale to Broadcast Live Commercials on ZDTV. Electronic Advertising and Marketplace Report. October 6, 1998. Vol 12. Issue 18. page 4.	1-30
Y	Philadelphia Business Journal. Auction Television Does \$1 Million Stock Placement. January 29, 1999. Vol. 17. Issue 51. page 36.	1-30

☒ Further documents are listed in the continuation of Box C. ☐ See patent family annex.

* Special categories of cited documents:	*T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
A document defining the general state of the art which is not considered to be of particular relevance	*X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
E earlier document published on or after the international filing date	*Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
L document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	*G* document member of the same patent family
O document referring to an oral disclosure, use, exhibition or other means	
P document published prior to the international filing date but later than the priority date claimed	

Date of the actual completion of the international search
22 AUGUST 2000

Date of mailing of the international search report
18 SEP 2000

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INTERNATIONAL SEARCH REPORT

International application No.
PCT/US00/18510

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 5,905,975 A (AUSUBEL) 18 May 1999, col 3, lines 1-30.	1-30
Y	MARQUEZ, RACHELLE. New Dimension For Auction. 15 September 1997. Vol. 15. Issue 20. page 38.	1-30

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US00/18510

B. FIELDS SEARCHED

Documentation other than minimum documentation that are included in the fields searched:

NEWTON'S TELECOM DICTIONARY

McGRAW-HILL ENCYCLOPEDIA OF ELECTRONICS AND COMPUTERS